

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on January 28, 2003, and the references cited therewith.

No claims are amended, no claims are canceled, and no claims are added; as a result, claims 1-29, 54-60, and 67-69 remain pending in this application.

§103 Rejection of the Claims

Claims 1-7, 14-20, 22-28, 54-56, and 56-60 were rejected under 35 USC § 103(a) as being unpatentable over Maiti et al. (U.S. 6,020,024) in view of Dalal et al. (U.S. 4,797,593).

Applicant does not admit that Maiti is indeed prior art and reserves the right to swear behind this reference at a later date. Nevertheless the Applicant believes that the present invention is distinguishable from the Maiti reference for the following reasons.

The rejection states that, “In addition to the deposition of metal oxide gate dielectric layer using CVD, it is possible to deposit a metal layer by sputtering and subsequently perform an oxidation step on the deposited layer and also perform CVD of a metallic oxide to form a composite metal layer.” The rejection further states, “Dalal discloses the formation of a tantalum layer formed by an evaporation process.”

Maiti appears to show a CVD or alternatively a sputtering deposition method used to deposit a metal layer used to form a gate oxide. However, Maiti does not show, teach or suggest **evaporation depositing** a metal layer on the body region. Maiti does not appear to recognize the advantages of using an evaporation depositing technique as discussed in Applicant’s specification. For example, on page 7, lines 10-29, the specification discusses processing advantages such as the high purity of available starting materials in evaporation depositing; amorphous deposition; a smooth interface in combination with a thin deposited layer; and low substrate processing temperature. Applicant’s specification teaches away from techniques such as sputtering on page 3, lines 12-21, while Maiti appears to equate sputtering with CVD. In contrast, Applicant’s independent claims each include evaporation depositing a metal layer on the body region.

Dalal appears to show evaporation depositing or alternatively RF sputtering a layer of tantalum metal 28 to form a diode contact as shown in Figure 1E. However, nothing in the Dalal

reference mentions formation of **gate oxides in transistors** as included in Applicant's claims. Because the Dalal reference does not show gate oxide structures, Applicant respectfully submits that there is no motivation to combine the references. As taught by the Applicant in the specification, gate oxide structures present specific technical problems including surface roughness and elemental purity issues. Applicant respectfully submits, the mere fact that Dalal discusses evaporation depositing does not teach how to achieve advantages taught by Applicant. Similar to Maiti, as discussed above, Dalal appears to equate evaporation depositing with sputtering (col. 4, lines 56-58), which is contrary to the teachings of Applicant's specification.

Further, tantalum metal is classified in group VB in the periodic table. In contrast, Applicant's independent claims each include the metal being chosen from a group consisting of the group IIIB elements and the rare earth series of the periodic table.

Because the cited references, either alone or in combination, do not show every element of Applicant's independent claims, and because there is no motivation to combine the Dalal reference with the Maiti reference, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to Applicant's independent claims 1, 14, 22, 54, 58. Additionally, reconsideration and withdrawal of the rejection is respectfully requested with respect to the remaining claims that depend therefrom as depending on allowable base claims.

Allowable Subject Matter

Claims 8, 21, 29, and 57 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant acknowledges and thanks the Examiner for indication of allowability of claims 8, 21, 29 and 57. Pursuant to the arguments presented above, Applicant has not rewritten claims 8, 21, 29 and 57 in independent form at this time. Applicant respectfully submits that base claims 1, 14, 22, and 54 are in condition for allowance, thus removing the necessity to rewrite claims 8, 21, 29 and 57.

Claims 9-13 and 67-69 were allowed. Applicant acknowledges and thanks the Examiner for allowance of these claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6944 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


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